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REMARKS/ARGUMENTS

Reconsideration is respectfully requested.

The drawings stand objected to for not showing some of the claimed limitations. In response, Claim 6, which includes all appropriate corrections, has been added. Further, the Specification has been to include the description of FIG. 6 on page 5, beginning at line 18 and on page 9, beginning at line 22. No new matter has been added. Withdrawal of the objection is respectfully requested.

Furthermore, FIG. 3 has been amended to remove the "(PRIOR ART)" designation, which was inadvertently included in FIG. 3 by error. It should be clear from the description in the original Specification page 5, lines 9-11 that:

> "Fig. 3 is a schematic plan view for showing the orientation of liquid crystal molecules in an LCD **according to a preferred embodiment of the invention**;"

Claims 1-9 are pending in the present application before this amendment. By the present amendment, Claims 1 has been amended. No new matter has been added.

Claims 1-3 and 5 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,229,589 (Koma) in view of U.S. Patent Application Publication No. 2002/0159012 (Yamada). The "et al." suffix, which may appear after a reference name, is omitted in this paper.

Claim 9 is indicated as being allowable.

The present invention teaches that in the case of driving the liquid crystal with forming the valley in the color filter, the liquid crystal 10 is arranged in

parallel with the valley 42 and the arrangement is divided into two directions at random, thereby preventing creation of an unadjustable disclination line (see FIG. 2).

In order to overcome the problem described above related to the unadjustable disinclination line, the presently claimed invention teaches including a plurality of slits 22 formed in the pixel region of the lower substrate 20; and at least one valley 42 formed in the color filer of the upper substrate and having a predetermined angle with respect to the slits 22. In other words, as shown in FIG. 3, when each valley 42 formed in the color filter of the upper substrate has a predetermined angle with respect to a plurality of slits 22 formed in the pixel region of the lower substrate, liquid crystal molecules injected between the upper and lower substrates are simultaneously affected by each different directions, i.e., slits direction A and valley direction B, thereby minimizing creation of the unadjustable disclination line.

Koma (see FIG. 6) discloses that the orientation control windows 32a, 32b, 32c on the upper substrate are arranged in parallel with the slits 19d, 19e on the lower substrate; however, Koma does **not** teach having with a predetermined angle with each other as recited in the presently claimed invention.

In appearance, Koma appears to be similar in that Y-shaped edges have a predetermined angle with respect to the slits; however, this is just to prevent the edges of the pixel electrodes from being arranged in abnormal direction and differs from the object of the presently claimed invention for minimizing creation

of the disclination line.

More particularly, comparison of the orientation of the present invention with that of Koma when voltage is applied to the LCD is as follows. The present invention teaches that as shown in FIG. 6 attached hereto, when slits 22 have a predetermined angel with respect to at least one valley 42, the longer axis of the liquid crystal molecules arranged on the slits 22 on the lower substrate 20 is arranged in perpendicular to slits, and the longer axis of the liquid crystal molecules arranged below the valley 42, are arranged in parallel with the valley.

Koma as shown in FIGS.4 and 6, however, discloses that right and left liquid crystal molecules are oriented in reverse about each orientation control window 50, which differs from the presently claimed invention presenting change of the direction of the longer axis, which is resulted from that at least one valley formed in the color filter of the upper substrate have a predetermined angel with respect to a plurality of slits 22 formed in the pixel region of the lower substrate.

As noted above, Applicants respectfully submit that the object, technical constitution and effect of the presently claimed invention are distinguishable from those of the cited references Koma and Yamada.

For the reasons set forth above, Applicants respectfully submit that Claims 1-9, now pending in this application, are in condition for allowance over the cited references. This amendment is considered to be responsive to all points raised in the Office Action. Accordingly, Applicants respectfully request

reconsideration and withdrawal of the outstanding rejections and earnestly solicit an indication of allowable subject matter. Should the Examiner have any remaining questions or concerns, the Examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,

Dated: July 8, 2004

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APPENDIX OF ATTACHMENTS

Application S/N 10/714,221
Reply to Office Action of April 9, 2004

Replacement Sheets of FIGS. 1-6
(a total of 5 sheets of drawings)

and

Annotated Sheets Showing Changes of FIGS. 1-6
(a total of 5 sheets of drawings)

FIG.1

(PRIOR ART)

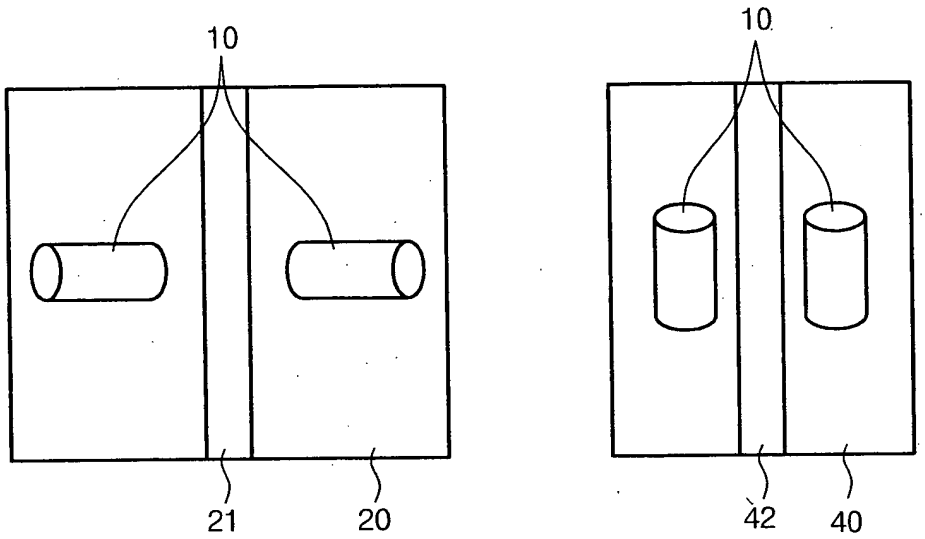

FIG.2

(PRIOR ART)

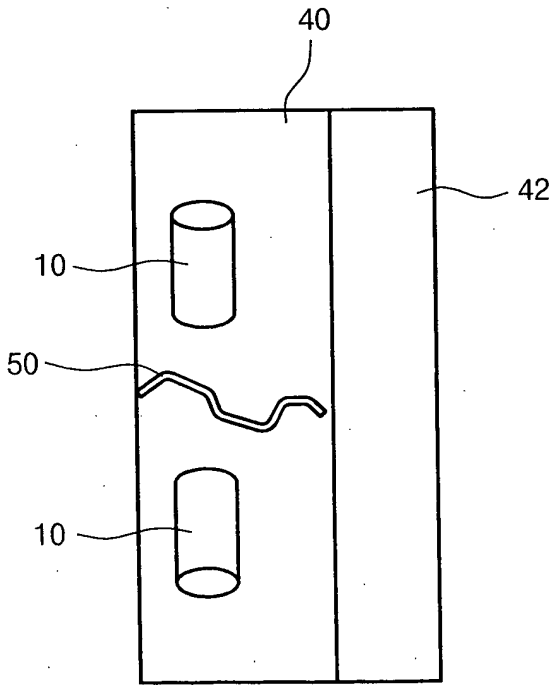

FIG.3

~~(PRIOR ART)~~

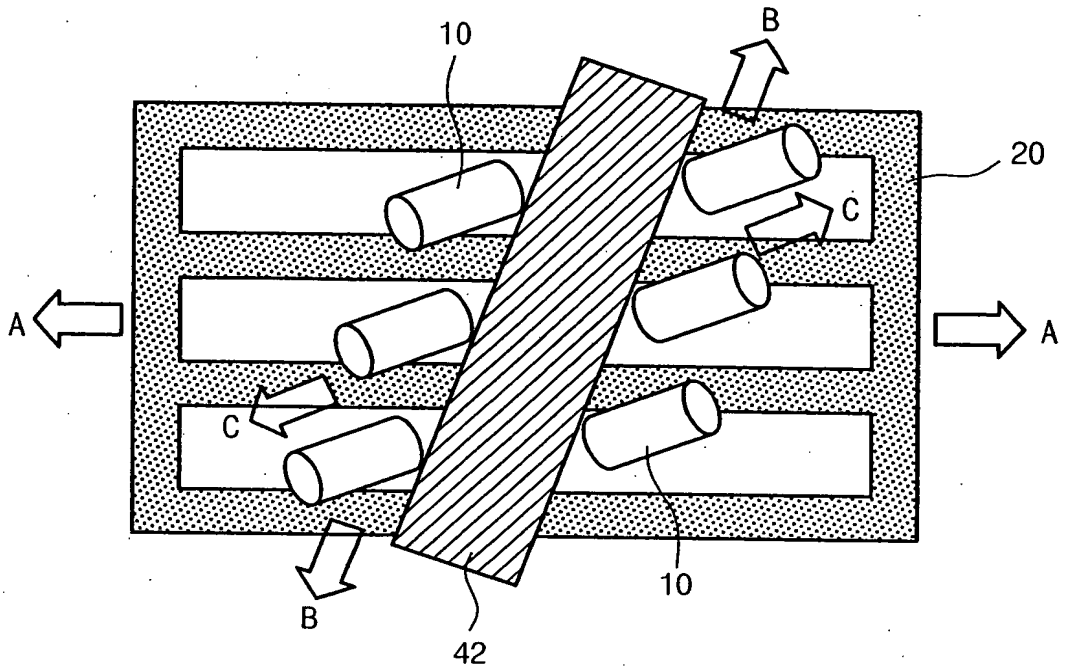

FIG.4

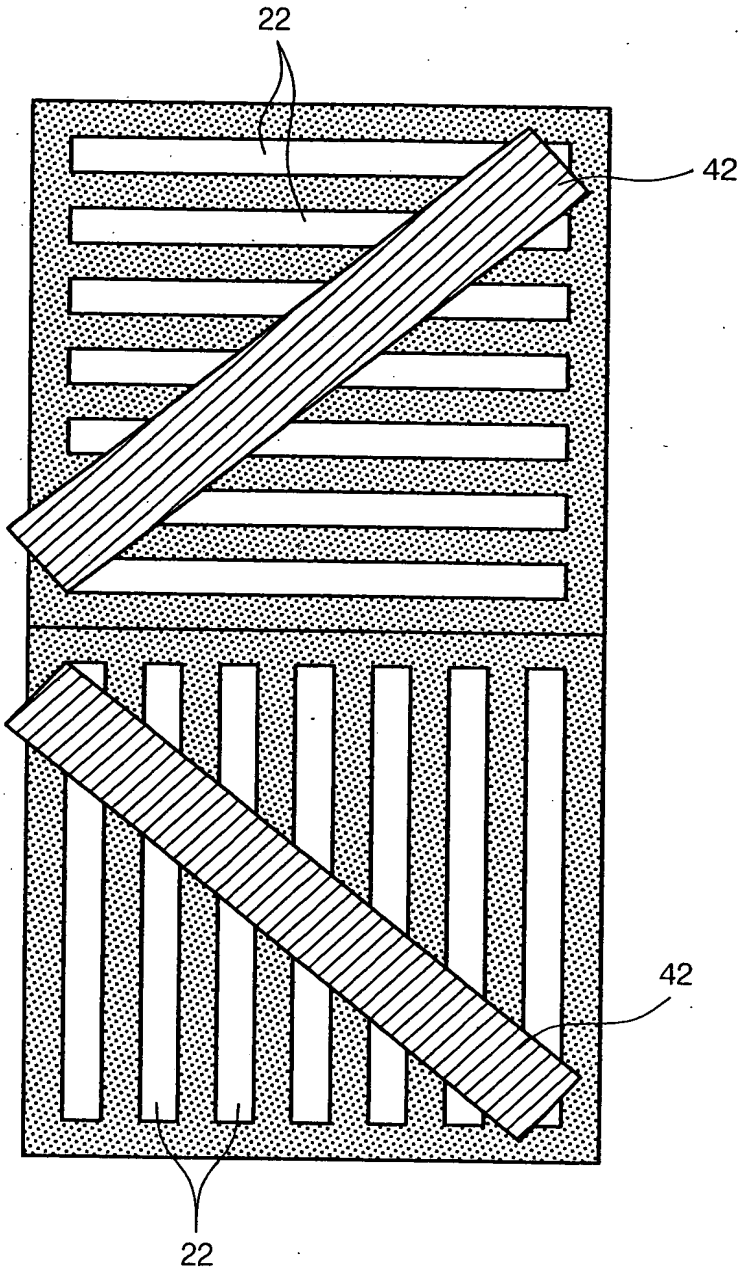

FIG.5

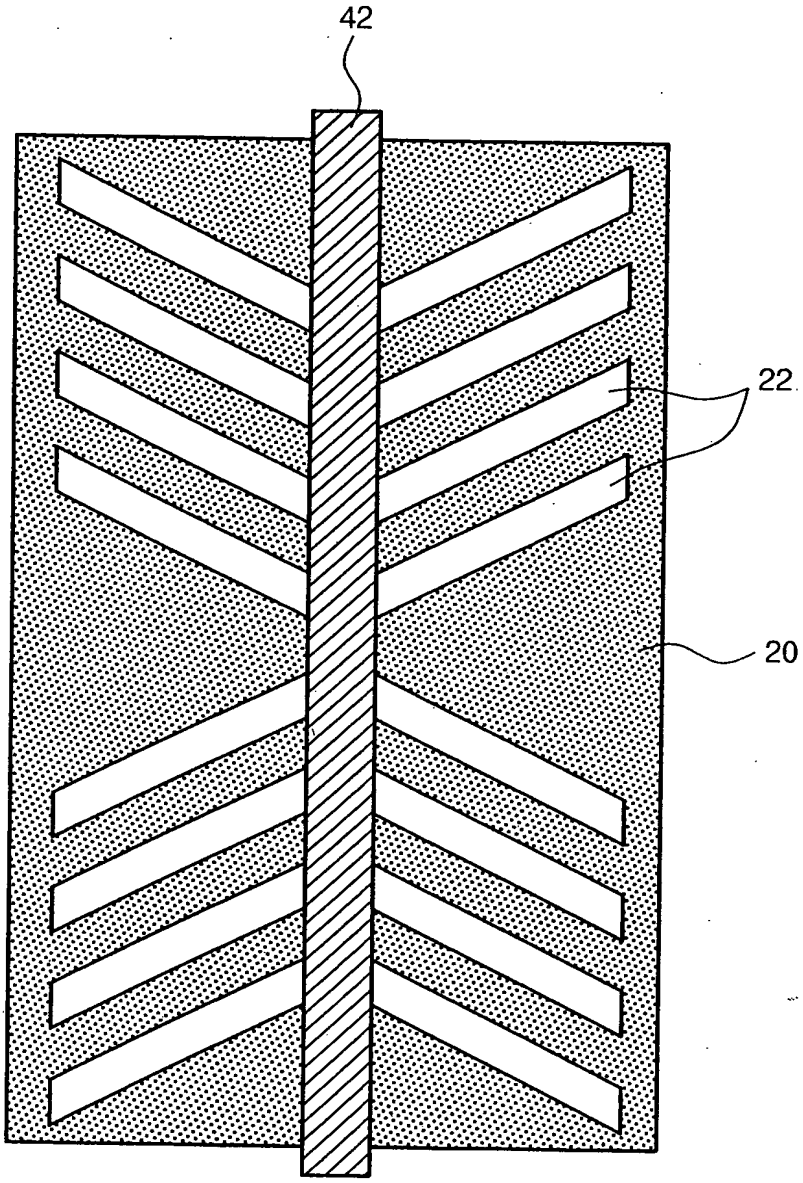

FIG. 6